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LABORATORY
OF THE
INLAND REVENUE DEPARTMENT
OTTAWA, CANADA.

BULLETIN No. 137

GROUND GINGER

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GROUND GINGER.

OTTAWA, July 15, 1907.

W. J. GERALD, Esq.,

Deputy Minister of Inland Revenue.

SIR,—I have the honour to submit you a report upon thirty (30) samples of Ground Ginger. These were collected throughout the Dominion, in November, 1906, in consequence of information received (P. 92549) which led to the belief that adulterated ginger was to be found on the Canadian Market.

Analysis shews 29 of these samples to be genuine, while adulteration is not absolutely certain in the remaining sample.

Ginger was made the subject of examination in 1896, and again in 1904. A synopsis of results shews the following:—

	Total samples examined.	Genuine.	PERCENTAGE.	
			Adulterated.	Doubtful.
Bulletin 48 — 1896.....	98	67	28	5
Bulletin 95 — 1904.....	10	60	40	0
Present report, 1907.....	30	97	0	3

The usual adulteration of ginger consists in the substitution of cheaper materials (flour, etc.), or in the use of exhausted rhizomes, i.e. stock from which the valuable principles have been more or less completely removed by washing. The examinations now made have had regard to the detection of such adulteration.

It is gratifying to find that ground ginger is now so largely unadulterated.

Some results obtained by the successive employment of certain solvents, are put on record; and may be useful in the event of our having to make a more intimate study of the properties of ginger at a future time.

I beg to recommend the publication of this report, as Bulletin No. 137.

I have the honour to be,

Sir,

Your obedient servant,

A. MCGILL,

Acting Chief Analyst.

RECORD of Samples of Ground Ginger—analysed by

Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Quantity.	Cost.	Name and Address of Manufacturer or Furnisher.
1900.			<i>District of Nova Scotia—R. J. Waugh, Inspector.</i>			
Nov. 5	Ground Ginger.....	27204	Dillon Bros., Sackville St., Halifax, N.S.	12 oss.	31c..	Jno. P. Mott & Co., Halifax, N.S.
" 8	"	27213	Jno. Lynch & Sons, Windsor, N.S.	12 "	30c..	" " "
" 5	"	28327	<i>District of Prince Edward Island—T. Moore, Inspector.</i> Sinclair & Stewart	1 lb.	14c..	Schwartz & Son, Halifax, N.S.
" 8	"	24287	<i>District of New Brunswick—J. C. Ferguson, Inspector.</i> G. E. Barbour Co., Ltd., 114 North Wharf, St. John, N.B.	3 pkgs.	30c..	Vendors.....
" 14	"	24289	Puddington & Merritt, 55 Charlotte St., St. John, N.B.	1 lb.	30c..	Jno. P. Mott & Co., Halifax, N.S.
" 13	"	20047	<i>District of Quebec—E. Beland, Inspector.</i> Elsear Turcotte, 74 Desfosses, Que.	1 lb.	40c..	R. Herron & Co., Montreal.
" 13	"	20000	T. A. Chabot, 271 St. Josephs, Que.	1 "	40c..	Whitehead & Turner ..
" 13	"	20052	Chas. Riverin, 55 Couronne, Que.	1 "	40c..	Ewing Co., Montreal..
" 13	"	20053	L. N. Bergeron, 70 Couronne, Que.	1 "	30c..	Not known.....
" 8	"	589	<i>District of St. Hyacinthe—J. C. Rouleau, Inspector.</i> N. Mitchell & Co., Granby, Que.	1 lb.	35c..	Chaput fils et Cie, Montreal.
" 9	"	500	Paradis & Leclaire, Sherbrooke, Que.	1/2 pkgs.	30c..	Marrotte, Leblanc et Cie, Montreal.
" 2	"	31626	<i>District of Montreal—J. J. Costigan, Inspector.</i> S. H. Ewing & Son, King St., Montreal.	1 lb.	30c..	Vendor
" 2	"	31630	J. J. Duffy & Co., St. Paul St., Montreal.	1/2 "	13c..	"
" 10	"	31632	Heron Leblanc Co., Ltd., St. Paul St., Montreal.	1/2 "	10c..	"
Dec. 12	"	31636	Theo. Lefebvre & Co., Gosford St., Montreal.	1/2 "	10c..	"
Nov. 13	Ground Ginger.. ...	29384	<i>District of Ottawa—A. E. Sanderson, Inspector.</i> G. Stewart, 237 Bank St., Ottawa.	1 lb.	40c..	Dorocoran Co., Wellington St., Ottawa.
" 14	"	29386	Geo. Thomas, 63 George St., Ottawa.	1 "	30c..	Major, Ottawa.....

the laboratory of the Inland Revenue Department.

Inspector's Report.	RESULTS OF ANALYSIS.								Remarks.
	Moisture.	Volatile oil.	Fat.	Loss to Ethylic Ether after Petroleum Ether.	Loss to Alcohol after Ethylic Ether.	Loss to Water after Alcohol.	Cold Water Extraction (on dry substance).	Incombustible matter (on dry substance).	
	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	
Labelled strictly pure.....	8.20						21.15	78.85	Genuine.
Labelled Jamaica Ginger, strictly pure.	8.33						21.10	78.90	"
.....	7.73						21.41	78.59	"
Labelled strictly pure	7.52			3.48	3.96	6.64	20.88	79.12	"
Ground Ginger, Acorn				3.64	4.32	6.89			
Brand, Maritime Spice & Coffee Mills, St. John, N.B.									
From wooden box in store.	7.22						21.16	78.84	"
.....	7.70						17.61	82.39	Doubtful. Many starch granules do not show cross with polarized light.
.....	7.45						22.00	78.00	Genuine.
.....	7.70						21.30	78.70	"
.....	7.88						21.87	78.13	"
The box was marked pure Jamaica Ginger.	8.48						20.78	79.22	"
Box marked pure.....	6.92						22.30	77.70	"
Taken at factory from stock.	7.52						21.62	78.38	"
" " " "	7.80						22.18	77.82	"
Taken at factory from bulk stock, wholesale price, 20c. per lb.	7.73						21.98	78.04	"
Sample collected at factory	7.10						20.64	79.36	"
Taken from bulk.....	6.40	2.64	3.24	1.40	5.08	5.76			
"	9.82						24.50	75.50	"
"	5.76	2.76	1.06	2.26	1.83	5.88			
"	9.00						22.57	77.43	"

RECORD of Samples of Ground Ginger—analysed by

Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Quantity.		Name and Address of Manufacturer or Furnisher.
					Cost.	
1906.			<i>District of Kingston—J. Hogan, Inspector.</i>			
" 5	Ground Ginger.....	31007	Chas. Sanders, Princess St., Kingston.	1 lb.	30c..	Hamilton Coffee and Spice Co.
" 5	"	31010	Anderson Bros., Princess St., Kingston.	1 "	40c..	Not known.
			<i>District of Toronto—T. Kidd, Acting Inspector.</i>			
" 14	"	30219	Peter Anderson, Guelph, Ont.	$\frac{1}{2}$ lb.	20c..	McPherson, Glasco & Co., Hamilton.
" 19	"	30233	Geo. E. Reynolds, Beeton, Ont.	$\frac{1}{2}$ "	20c..	H. P. Eckart, Toronto.
" 20	"	30236	J. D. Elliott, Tottenham, Ont.	6 ozs.	30c..	Robert Gregg & Co., Toronto.
" 29	"	30238	William Hamel, Tottenham, Ont.	$\frac{1}{2}$ lb.	20c..	Perkins, Ince & Co., Toronto.
			<i>District of London—T. Kidd, Inspector.</i>			
" 3	"	30200	Wm. Anderson, Chatham, Ont.	$\frac{1}{2}$ "	20c..	A. M. Smith & Co., London, Ont.
" 8	"	30213	Chas. A. Nairn, Goderich, Ont.	$\frac{1}{2}$ "	20c..	Gorman & Eckart, London, Ont.
			<i>District of Manitoba—Wm. M. Conklin, Inspector.</i>			
" 8	"	25906	McLellan & English, Virden, Manitoba.	$\frac{1}{2}$ lb.	20c..	Todhunter & Mitchell, Toronto.
" 8	"	25910	D. Rice, Brandon, Man.	$\frac{1}{2}$ "	20c..	Codville & Co., Winnipeg.
			<i>District of British Columbia—E. B. Parkinson, Inspector.</i>			
" 9	"	28187	The Empress Mfg. Co., Ltd., Vancouver, B.C.	3 tins	30c..	Vendor
" 10	"	28194	F. Wright, Granville St., Vancouver, B.C.	$\frac{3}{4}$ lb.	30c..	Todhunter & Mitchell, Toronto.
" 1.	"	28199	Woodward Dep. Stores, Abbott St., Vancouver, B.C.	3 tins	30c..	Wm. Braid & Co., Vancouver, B.C.

the laboratory of the Inland Revenue Department.—*Concluded.*

Inspector's Report.	RESULTS OF ANALYSIS.								Remarks.
	Moisture.	Volatile oil.	Fat.	Loss to Ethylic Ether after Petroleum Ether.	Loss to Alcohol after Ethylic Ether.	Loss to Water after Alcohol.	Cold Water Extractions (on dry substance).	Insoluble matter (on dry substance).	
	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	
.....	8.84						23.80	76.20	Genuine.
.....	6.68	2.00	0.82	1.38	3.18	5.46			
.....	6.62	2.38	1.20	2.02	2.52	2.70			
.....	2.60						10.10	89.84	"
.....	9.18						24.22	75.67	"
.....	6.00	2.64	1.20	1.78	2.20	3.42			
.....	8.98						19.96	80.04	"
.....	8.46	1.50	0.72	1.34	2.14	3.70			
.....	8.00						24.68	75.32	"
.....	8.24	1.70	1.04	1.28	1.80	5.16			
.....	8.06						24.28	75.72	"
.....	7.42	1.58	2.20	2.60	3.8	4.28			
.....	8.20						23.27	76.63	"
.....	8.16	2.12	1.58	2.40	2.48	5.70			
.....	8.42						20.86	79.02	"
.....	6.64	3.04	0.80	2.04	2.18	3.02			
.....	7.96						22.27	77.73	"
.....	7.40						22.50	77.50	Genuine; but a little foreign starch is present.
Purchased at the factory, 'Empress brand.' Empress brand Coffee, Spices and Extracts always reliable.	7.2						21.86	78.14	Genuine.
Bulk ginger	7.06	2.2	2.34	2.6	5.22	4.04			
Double superfine purity. Strength guaranteed first quality. The spice in this can is guaranteed to be of the finest quality, full strength and full weight. Put up expressly for vendors by Wm. Braid & Co.	8.16						22.32	77.68	"
	6.14						20.34	79.66	"